



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2000

| July 2000 | | | | | | | | | |
|--|------------------|----------------------------|---------------------------|--------------------------|----------------------|----------|---------------------|-------------|--|
| Location | Date | Time Local/ Standard | Path Length (Miles) | Path Width (Yards) | Number of Persons | | Estimated Damage | | Character of Storm |
| | | | | | Killed | Injured | Property | Crops | |
| <u>WISCONSIN, Southeast</u> | | | | | | | | | |
| WIZ066 | Milwaukee | | | | | | | | |
| | 02 | 0000CST 2359CST | | | 0 | 0 | | | Record Rainfall |
| Dodge County | | | | | | | | | |
| 5 S Danville | 02 | 1555CST | | | 0 | 0 | | | Hail (1.00) |
| Jefferson County | | | | | | | | | |
| Johnson Creek | 02 | 1629CST 1635CST | | | 0 | 0 | 50K | 100K | Hail (1.75) |
| Jefferson County | | | | | | | | | |
| Sullivan | 02 | 1645CST 1800CST | | | 0 | 0 | | | Urban/Sml Stream Fld |
| Jefferson County | | | | | | | | | |
| Rome to 3.7 SE Sullivan | 02 | 1655CST 1700CST | | | 0 | 0 | 75K | 100K | Hail (2.25) |
| Waukesha County | | | | | | | | | |
| Waukesha to Brookfield | 02 | 1655CST 1705CST | | | 0 | 0 | 100K | | Thunderstorm Wind (G68)^M |
| Milwaukee County | | | | | | | | | |
| Countywide | 02 | 1700CST 1800CST | | | 0 | 0 | | | Urban/Sml Stream Fld |
| Racine County | | | | | | | | | |
| Racine | 02 | 1700CST 1800CST | | | 0 | 0 | | | Urban/Sml Stream Fld |
| Waukesha County | | | | | | | | | |
| Mukwonago to Brookfield | 02 | 1700CST 1800CST | | | 0 | 0 | | | Urban/Sml Stream Fld |
| Waukesha County | | | | | | | | | |
| 2 S Dousman to North Prairie | 02 | 1710CST 1712CST | | | 0 | 0 | 150K | | Thunderstorm Wind (G61)^M |
| Milwaukee County | | | | | | | | | |
| 5.4 SW Milwaukee Mtch 7 SSE Milwaukee Mitchell Ar | 02 | 1730CST 1806CST | 6.6 | 100 | 0 | 0 | 1.5M | | Tornado (F1) |





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| Location | Date | Time Local/ Standard | Path Length (Miles) | Path Width (Yards) | Killed | Persons Injured | Estimated Damage Property | Crops | Character of Storm |
|-------------------------------------|------|----------------------------|---------------------------|--------------------------|--------|--------------------|---------------------------------|-------|----------------------|
| <u>WISCONSIN, Southeast</u> | | | | | | | | | |
| Waukesha County | | | | | | | | | |
| Brookfield to New Berlin | 02 | 1740CST 1745CST | | | 0 | 0 | 200K | | Thunderstorm Wind |
| Racine County | | | | | | | | | |
| Caledonia to Racine | 02 | 1750CST 1800CST | | | 0 | 0 | 200K | | Thunderstorm Wind |
| Racine County | | | | | | | | | |
| 2.8 NNW Husher to 2.9 NNW Husher | 02 | 1806CST | 0.2 | 30 | 0 | 0 | 10K | | Tornado (F0) |
| Racine County | | | | | | | | | |
| 5 NW Racine to Racine | 02 | 1821CST 1845CST | | | 0 | 0 | 150K | | Thunderstorm Wind |
| Dodge County | | | | | | | | | |
| 2 N Beaver Dam to 2 S Horicon | 02 | 1840CST 1850CST | | | 0 | 0 | 10K | | Thunderstorm Wind |
| Dane County | | | | | | | | | |
| Madison | 02 | 1900CST | | | 0 | 0 | 10K | | Thunderstorm Wind |
| Dane County | | | | | | | | | |
| Madison | 02 | 1900CST 2000CST | | | 0 | 0 | | | Urban/Sml Stream Fld |
| Milwaukee County | | | | | | | | | |
| South Portion | 02 | 1900CST 2359CST | | | 0 | 0 | 6.8M | 151K | Flash Flood |
| Racine County | | | | | | | | | |
| Racine | 02 | 1900CST 2359CST | | | 0 | 0 | 1.3M | 750K | Flash Flood |
| Waukesha County | | | | | | | | | |
| Hartland to Waukesha | 02 | 1900CST 2359CST | | | 0 | 0 | 200K | | Flash Flood |
| Waukesha County | | | | | | | | | |
| Delafield | 02 | 1925CST | | | 0 | 0 | | | Hail (0.88) |
| Dodge County | | | | | | | | | |
| 2 S Iron Ridge | 02 | 1926CST | | | 0 | 0 | 2K | | Thunderstorm Wind |
| Walworth County | | | | | | | | | |
| Richmond | 02 | 1930CST 2130CST | | | 0 | 0 | | | Urban/Sml Stream Fld |
| Washington County | | | | | | | | | |
| Richfield | 02 | 1935CST | | | 0 | 0 | 1K | | Thunderstorm Wind |
| Waukesha County | | | | | | | | | |
| Waukesha | 02 | 1945CST | | | 0 | 0 | 2K | | Thunderstorm Wind |
| Milwaukee County | | | | | | | | | |
| Franklin | 02 | 1950CST | | | 0 | 0 | 15K | | Lightning |
| Milwaukee County | | | | | | | | | |
| Franklin | 02 | 1955CST | | | 0 | 0 | 10K | | Lightning |
| Washington County | | | | | | | | | |
| Germantown | 02 | 1955CST | | | 0 | 0 | | | Hail (1.00) |

Severe weather in the form of a tornado, damaging straight-line downburst winds, large hail, and flash flooding hammered a small piece of south-central and much of southeast Wisconsin during the late afternoon and evening hours. The most significant cluster of thunderstorms developed over southern Columbia county and proceeded to move east/southeast through Dodge, Jefferson, Waukesha, Milwaukee, and Racine counties. A supercell on the west end of this cluster, with a well-defined mesocyclone, produced some damaging straight-line winds and large hail up to 2.25 inches in diameter in Jefferson County, but could only generate a rotating wall cloud at its base in that county. This supercell continued to dump large hail as it moved across Waukesha County, but once it moved over the city of Franklin in southwestern Milwaukee County, it spawned a tornado at 1730CST about 3/4 of a mile northwest of the intersection of Highways 41 and 100 (27th St. & Ryan Rd, or about 5.4 miles southwest of Milwaukee's General Mitchell



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| July 2006 | | | | | | | | | |
|-----------|------|--------------------|-------------------|------------------|-----------|---------|-----------|-------|--------------------|
| Location | Date | Time | Path | Path | Number of | | Estimated | | Character of Storm |
| | | Local/ Standard | Length (Miles) | Width (Yards) | Killed | Injured | Property | Crops | |

WISCONSIN, Southeast

International Airport). This tornado tore east/southeast through Oak Creek, and then exited Milwaukee County at 706 pm, where Highway 32 goes south into Racine County (or about 7 miles south/southeast of Mitchell Field). The tornado continued for about .2 miles into Racine County, just east of Highway 32, before dissipating about 2.9 miles northeast of Husher.

Luckily, no one was injured or killed by the tornado that traveled through Franklin and Oak Creek into Racine County. It intensified to a F1 rating as it damaged buildings, and turned over several semi-tractor trailers at a truck stop at the intersection of I-94 and Ryan Rd. This tornado damaged at least a dozen homes in Franklin and Oak Creek, as well as one business and one utility building. Hundreds of trees were uprooted and blown over, but luckily many of them fell between buildings! Sixty power poles were snapped by the tornadic winds in Oak Creek. In Franklin, a 40-foot TV antenna was pushed over into a neighboring home, and a 20-foot camper was severely damaged. Eyewitness reports indicate that this tornado was rain-wrapped and was multi-vortex at times. Just south of the Ryan Rd. and 27th St intersection, a spotter indicated that sustained winds were greater than 40 mph for 15 minutes as the tornado passed just to the north of their position. In Racine County, the tornado uprooted trees as it weakened.

The area from Johnson Creek to the Rome and Sullivan in Jefferson county sustained considerable hail and wind damage. Several vehicles on Interstate 94 near Johnson Creek, and in the Rome to Sullivan area, had windows broken by the large hailstones up to 2.25 inches in diameter. In addition, a few large trees were uprooted. Some of the corn crop in this swath had leaves stripped off. NWS employees at the NWS office southeast of Sullivan identified a rotating wall cloud about 3 or 4 miles west of their location

Waukesha County was raked by four rounds of severe storms. The 1st round possessed hurricane-force winds gusting to 68 knots (78 mph) at the Waukesha Airport near I-94. The city of Brookfield sustained tree and power line damage from this wet macroburst. The Jefferson County supercell constituted round #2 as it raked an area from Dousman to North Prairie (Waukesha Co.) with large hail and powerful downburst winds gusting to a measured 61 knots (70 mph). Hundreds of trees were uprooted and many power lines were downed. In North Prairie, 2 homes and a car sustained tree-inflicted damage. As this supercell moved east/southeast across Waukesha County, its strength pulsed upwards again and the Brookfield to New Berlin area experienced powerful downburst winds (round #3) that leveled more trees and power lines. A roof on an apartment complex in New Berlin was partially ripped off by the winds, but luckily no one was injured. Later in the evening, the 4th round of severe storms hit the Delafield to City of Waukesha area. Hail stones of almost an inch in diameter fell and powerful winds pushed over some trees.

Racine County residents suffered the effect of 2 rounds of severe storms. Many trees and power-line poles were leveled in both rounds. At least 60 power-line poles were pushed over. At least 50 homes and 3 farm buildings in eastern Racine County were damaged by the powerful winds, or by felled trees. Scattered severe storms also produced large hail and/or damaging winds which leveled trees in Madison (Dane County), and southern Washington County (Richfield and Germantown).

Collectively, about 70 thousand customers were without power at one time or another during the afternoon and evening hours on July 2nd due to downed power lines or lightning strikes to transformers. Twenty-five thousand of these were in Franklin and Oak Creek alone.

Minor urban/small stream flooding affected parts of Waukesha and Racine Counties, as well as much of Milwaukee County after the 1st round of storms moved through and dumped rainfall of 1 to 2 inches. Water depths on roads were reported to be 6 to 12 inches.

As with previous episodes of severe weather across southern Wisconsin during May and June, flash flooding occurred later in the evening on July 2nd, as additional rounds of storms, some severe, moved across the area. Torrential downpours, sometimes reaching an inch or more within 15 minutes, produced flash flooding across the southern half of Milwaukee County, the area from Hartland and Waukesha to Brookfield and Elm Grove in Waukesha County, and in/near the city of Racine (Racine Co.). Water depths on roads in these areas reached 1 to 4 feet. The flood waters resulted in gravel shoulder washouts on roads, structural damage to basements, damage to basement contents, and culvert damage. In the city of Franklin (Milwaukee Co.), a home's basement walls collapsed due to the pressure of the flood waters. Most small streams and creeks in Waukesha, southern Milwaukee, and eastern Racine County quickly exceeded flood stage by 1 to 2 feet due to the intense rainfall.

The Root River in Franklin, the Root River Canal at Raymond (Racine Co.), Oak Creek in South Milwaukee, and the Menomonee River in Wauwatosa all crested between 2115CST on July 2nd and 0315CST the next morning. Homes and businesses near these locations sustained the worst flood damage. Collectively, the Milwaukee County flash flooding damaged 6974 residential homes, 38 businesses, 1 utility building, and 9 agricultural buildings. About 600 acres of farm land in southern Milwaukee County sustained crop damage. In Racine County, 429 residential buildings were damaged by flash flood waters, and about 2800 acres of farm land had crop damage or soil erosion.

Urban/small stream flooding was reported in the city of Madison, in Sullivan, and around Richmond (Walworth Co.) due to the heavy rainfalls. Water depths on roads were in the 6 to 18 inch range. The Madison area picked up 1.5 to 2.5 inches of rainfall (Madison Truax Field had 1.89" for the day), the Sullivan area picked up an estimated 2.5 to 3.0 inches, and 3.7 inches fell in Richmond on the 2nd. No flood damage was reported from these locations.

Two separate lightning strikes in Franklin started fires that damaged a car and a home's garage.



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|----------|------|----------------------------|---------------------------|--------------------------|--------|---------------------------------|---------------------------------|------------------------------|--------------------|

WISCONSIN, Southeast

Twenty-four hour rainfall amounts (mostly in the late afternoon and evening hours on July 2nd) ending 0600CST on July 3rd across southeast Wisconsin were impressive:

Waukesha County...7.00" in Elm Grove, 5.06" at Carroll College, 4.27" in Hartland

Milwaukee County...6.50" in Greenfield, 5.05" south side of Milwaukee, 4.75" in West Allis, 4 to 6" in Franklin, 4.22" at Milwaukee Mitchell International Airport

Racine County...5.76" at Raymond, 3.99" in the city of Racine

The 4.42 inches of rain recorded at Milwaukee General Mitchell International Airport on July 2nd, set a new record for the day and a new daily record for any day in July. This was also the 6th wettest day for Milwaukee going back to the start of documentation in 1871. Milwaukee would finish the month of July 2000 with 7.12 inches of rain, the 3rd wettest July on record.

Synoptically, an old frontal boundary sagged south across southern Wisconsin as low pressure moved east along it. A short-wave aloft was also moving east across the region. Moist, unstable air, drawn north into the frontal boundary, fueled the storms.

WIZ056-062-067

Sauk - Iowa - Lafayette

| | | | | |
|----|---------|---|---|-----|
| 05 | 2300CST | 0 | 0 | Fog |
| 06 | 0800CST | | | |

Leftover moisture in the lower levels of the atmosphere, light winds, and clear skies, allowed dense fog to develop overnight across parts of south-central Wisconsin. Visibilities dropped to 1/4 mile or less, and lowered to near zero in the river valleys, especially in the Wisconsin River valley. Two dozen vehicle accidents were noted. Airplane traffic in and out of local airports was delayed until the dense fog burned off.

| | | | | | | |
|-------------------------|----|--------------------|---|---|------|----------------------|
| Lafayette County | | | | | | |
| Gratiot | 10 | 0200CST | 0 | 0 | 15K | Thunderstorm Wind |
| Iowa County | | | | | | |
| 5 NW Hollandale | 10 | 0208CST | 0 | 0 | 3K | Thunderstorm Wind |
| Dane County | | | | | | |
| Daleville | 10 | 0215CST | 0 | 0 | 2K | Thunderstorm Wind |
| Green County | | | | | | |
| Jordan | 10 | 0220CST | 0 | 0 | 2K | Thunderstorm Wind |
| Iowa County | | | | | | |
| Barneveld | 10 | 0220CST | 0 | 0 | 2K | Thunderstorm Wind |
| Green County | | | | | | |
| Monroe to Albany | 10 | 0250CST 0300CST | 0 | 0 | 10K | Thunderstorm Wind |
| Dane County | | | | | | |
| 2 S Oregon | 10 | 0255CST | 0 | 0 | 2K | Thunderstorm Wind |
| Rock County | | | | | | |
| Janesville to Beloit | 10 | 0305CST 0315CST | 0 | 0 | 15K | Thunderstorm Wind |
| Rock County | | | | | | |
| Janesville | 10 | 0320CST | 0 | 0 | 10K | Lightning |
| Rock County | | | | | | |
| Janesville | 10 | 0330CST 0500CST | 0 | 0 | | Urban/Sml Stream Fld |
| Walworth County | | | | | | |
| Delavan | 10 | 0340CST | 0 | 0 | 3K | Thunderstorm Wind |
| Walworth County | | | | | | |
| Pell Lake to Genoa City | 10 | 0400CST | 0 | 0 | 346K | 300K Flash Flood |
| Dane County | | | | | | |
| Madison | 10 | 0410CST | 0 | 0 | 3K | Thunderstorm Wind |



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|----------|------|----------------------------|---------------------------|--------------------------|--------------------------------|---------------------------------|---------------------------------|------------------------------|--------------------|

WISCONSIN, Southeast

Sauk County

Limeridge to
Devils Lake

10 0500CST 0 0 175K 3M Flash Flood

A long line of severe thunderstorms moved east at 50 mph across south-central and southeast Wisconsin during the pre-dawn and early morning hours. Besides powerful winds, flash-flood producing rains accompanied the storms. Numerous large trees and power lines were toppled where the severe storms produced straightline downburst winds. In Gratiot (Lafayette Co.), one of the toppled trees landed squarely on a home. Janesville (Rock Co.) experienced a variety of weather hazards. Numerous trees were blown down across the city, with one damaging a home. Lightning struck a power transformer on the west side of the city, cutting off electricity to about 600 customers. In addition, 1.67 inches of rain fell in the pre-dawn hours, resulting in urban flooding. A few manhole covers reportedly popped into the air due to the pressure from the fast-moving runoff. Water depth was reported to be 6 to 12 inches. Elsewhere across south-central and southeast Wisconsin, debris removal and new power poles and lines were the order of the day.

Yet another round of serious flash flooding occurred across the central part of Sauk County from the Lime Ridge area east to the Devil's Lake and Baraboo area. After the initial line of storms moved through the county, several additional thunderstorms developed over the western part of the county and repeatedly trained across the same locations. An unofficial 6 to 8 inches of rain fell during the pre-dawn hours, but 3.5 inches were registered at the Baraboo Wastewater Treatment Plant. Nearly every creek and stream in this swath exceeded flood stage experienced rapid increases in water levels which. Highway 113 leading southeast out of Baraboo had several sections washed out. Highway 159 up to Devil's Lake was closed due to the flooding. Highway 12 from West Baraboo down to near the old Badger Ammo Plant was flooded and closed. Several of the hiking and biking trails, and camping spots around Devil's lake had washouts. Several roads on the south side of Baraboo experienced washouts or undercuts as creeks and streams draining north out of the Baraboo Bluffs became raging currents. Mud covered many of the roads in the southern part of Baraboo, and water/mud marks were left at the 8 foot mark in some businesses! Crop damage and soil erosion was substantial in surrounding farm lands.

Flash flooding hit the southeast part of Walworth County after 2 inches of rain fell in 1 hour on saturated ground. Nippersink Creek quickly exceeded its banks in the Pell Lake and Genoa City area. Ten homes experienced structural or contents damage, and one home was destroyed. Eight people were left homeless and 6 families were evacuated. Several roads had washout sections and many others had gravel shoulder washouts. Surrounding agricultural lands sustained crop washouts or soil erosion.

Racine County

Waterford to
Caledonia

14 0030CST 0 0 Urban/Sml Stream Fld
0200CST

Waukesha County

Waukesha to
2 S Waukesha

14 0030CST 0 0 Urban/Sml Stream Fld
0200CST

Scattered thunderstorms moved through southeast Wisconsin and dumped brief, very heavy rains that led to urban-type flooding in the Waterford area of western Racine county, and over the south side of the city of Waukesha. Water depth on some roads reached 6 to 12 inches. Reports indicated that up to 1 inch of rain fell in 15 minutes ending at 0040CST on July 14th. In addition, gusty winds of 39 to 43 knots (45 to 50 mph), and hail one-fourth inch in diameter, and overflowing rain gutters were noted with the downpours.